GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1274

GCS/133/BBMP/YNK/Pkg 3/21-22/57

Date: 21.06.2021

To,

The Executive Engineer,
Yelahanka Division,
Bruhat Bengaluru Mahanagara Palike (BBMP),
Bangalore – 560064

FREQUANCY AND QUALITY REPORT

Sub: Regarding Quality Report for the below mentioned work.

Name of Work: Improvements to roads, drains and other developmental works in ward no-03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03).

Sl. NO.	Description of Work	Unit	Quantity	No of samples tested	Standards
1	Providing and laying plain/reinforced cement concrete for side drains walls & bottom thickness 15cm using M20 nominal mix concrete	Cum	928.51	19	Per 50 Cum
2	Providing TMT Bars Fe 500 steel reinforcement for RCC	MT	57.61	3	Per Dia of steel
3	Construction of Granular Sub-Base Grading V as sub base and drainage layer	Cum	136.63	1	Per 400Cum
4	Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam	Cum	182.17	1	Per 200Cum
5	Providing and laying dense graded with 4.5 % VG-30 Bitumen crushed aggregates	Cum	380.34	6	Per day Two Tests
6	Providing and laying bituminous concrete 40mm thick with 5.4 % of modified bituminous binder	Cum	783.70	14	Per day Two Tests

With respect to the above subject & name of the work, we have inspected the work and the Quantity and Quality of above-mentioned items of the work was found to be completed satisfactorily for the 2nd & Final bill.

Chief Project Manag-
Gooly Consultancy Services

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬ.ಬ.ಪಾ.ಪಿ. ಬೆಂಗಳೂರು-106

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1275
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Sample ID No: 20338-7/1

Sl.No	Physical properties	Results	Units	Requirement as per IS 269: 2015		
				33 Grade	43 Grade	53 Grade
8	Compressive Strength					
	3 Days	27.5	N/mm^2	Min 16 N/mm^2	Min 23 N/mm^2	Min 27 N/mm^2
	7 Days	36.5	N/mm^2	Min 22 N/mm^2	Min 33 N/mm^2	Min 37 N/mm^2
	28 Days	45.0	N/mm^2	Min 33 N/mm^2, Max 48 N/mm^2	Min 43 N/mm^2, Max 58 N/mm^2	Min 53 N/mm^2

Remarks:

1. The test results pertain to the number of sample Received and Tested
2. Any correction in the report will make this report invalid.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By:
Sushma

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬೆಂಗಳೂರು-106

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1279

Lab ID: GCS-03-20338-1
Date: 02-02-2021

TEST REPORT ON PHYSICAL PROPERTIES OF FINE AGGREGATE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name of Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Sample ID No: 20338-1/3
Date of Receipt: 27-01-2021
Location: Escorts Engineering Layout 3rd Main Road Ch: 00-103.00
Sampling : Sample Received from the site and Tested
Sample Identification* M-Sand
Reference to BIS code Test Method:
IS 2386 (Part 1) : 1963 (RA 2016) Particle Size And Shape Cl.2
IS 2386 (Part 3) : 1963 (RA 2016) Specific gravity, density, voids, absorption and bulking
IS 2386 (Part 4) :1963 (RA 2016) Mechanical Properties
Specification:
IS 383 : 2016 Coarse and fine aggregate for concrete
Condition of sample: Satisfactory
Date of test: 28-01-2021 to 01-02-2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF FINE AGGREGATE:

Total weight taken: 1000 grams

SL.No	Sieve Designation	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383 : 2016 Table-9, (Cl-6.3)				Remarks
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV	
1	10 mm	0	0	0	100	100	100	100	100	The tested Sample confirms to Grading Zone- II
2	4.75 mm	8	8	0.8	99.2	90-100	90-100	90-100	95-100	
3	2.36 mm	160	168	16.8	83.2	60-95	75-100	85-100	95-100	
4	1.18 mm	210	378	37.8	62.2	30-70	55-90	75-100	90-100	
5	600 micron	250	628	62.8	37.2	15-34	35-59	60-79	80-100	
6	300 micron	244	872	87.2	12.8	5-20	8-30	12-40	15-50	
7	150 micron	100	972	97.2	2.8	0-10	0-10	0-10	0-15	
8	Pan	28	1000	100	0	---	---	---	---	

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬ.ಬ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-೨೦೯

Gooly Consultancy Services Bangalore

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1281

Lab ID: GCS-03-20338-1

Date: 02-02-2021

TEST REPORT ON MECHANICAL PROPERTIES OF REINFORCEMENT STEEL

Name of Client: Bruhat Bangalore Mahanagara Palike

Address: Yelahanka Division

Package No: Package - 03

Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)

Name of Contractor: M/s RAM & Co., Bangalore

Name of PMC: M/s Gooly Consultancy services, Bangalore

Date of Receipt: 30-01-2021

Location: Escorts Engineering Layout 3rd Main Road Ch: 00-103.00

Sampling : Sample Received from the site and Tested

Reference to BIS codes: **Test Method:**

IS 1608 (Part 1) : 2018, Metallic Materials, Tensile Testing, Method of Test at Room Temperature

IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement - Bend & Rebend Test

Specification:

IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement

Condition of sample: Satisfactory

Date of test: 01-02-2021 to 02-02-2021

Sl. No	Sample Identification	Sample ID No	Nominal size (dia in mm)	Mass per meter (kg/meter)	TENSILE STRENGTH				Bend Test	Re Bend Test
					0.20 % proof stress/ yield stress (N/mm^2)	Tensile strength (N/mm^2)	TS/YS ratio	Elongation percent on gauge length		
1	RD TMT Fe 550	20338-1/1a	08	0.375	560	625	1.11	25.0	–	–
	RD TMT Fe 550	20338-1/1b	08	0.372	–	–	–	–	No Rupture or Crack Visible	–
	RD TMT Fe 550	20338-1/1c	08	0.371	–	–	–	–	–	No Rupture or Crack Visible

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-೧೬೬

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1284

Lab ID : GCS-03-20338-1
Date : 08/07/2021

TEST REPORT ON CEMENT CONCRETE CUBES

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name of Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Sample Identification*: C C Cube / 150mmx150mmx150mm / M - 20 / 28 days Compressive Strength
Reference to BIS codes: **Test Method:**
IS 516 : 1959 (RA 2018) Methods Of Tests For Strength Of Concrete Cl.5
Specification:
IS 456 : 2000 (RA 2016) Plain And Reinforced Concrete - Code Of Practice
Condition of sample: Satisfactory

Compressive strength : Min 20 N/mm2 as per IS 456 : 2000 (RA 2016) Plain And Reinforced Concrete - Code Of Practice

Sl. No	Sample Identification mark on CC Cubes	Location	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of cube (grams)	Failure Load (kN)	Compressive strength (N/mm²)	Average Compressive strength of 3 Cubes (N/mm²)
Escorts Engineering Layout											
1	1/1	Ch: 00-208 2nd Cross	M-20	16-Jan-21	13-Feb-21	150*150 *150	22500	8532	495	22.00	21.6
	1/2		M-20	16-Jan-21	13-Feb-21	150*150 *150	22500	8543	475	21.12	
	1/3		M-20	16-Jan-21	13-Feb-21	150*150 *150	22500	8589	485	21.56	
2	1/1	Ch: 00-208 2nd Cross	M-20	19-Jan-21	16-Feb-21	150*150 *150	22500	8446	485	21.56	21.1
	1/2		M-20	19-Jan-21	16-Feb-21	150*150 *150	22500	8492	465	20.67	
	1/3		M-20	19-Jan-21	16-Feb-21	150*150 *150	22500	8435	475	21.12	
3	1/1	Ch: 00-241.20 Main Road LHS	M-20	23-Feb-21	23-Mar-21	150*150 *150	22500	8402	490	21.34	21.3
	1/2		M-20	23-Feb-21	23-Mar-21	150*150 *150	22500	8456	485	21.56	
	1/3		M-20	23-Feb-21	23-Mar-21	150*150 *150	22500	8456	475	21.12	
4	1/1	Ch: 00-241.20 Main Road LHS	M-20	27-Feb-21	27-Mar-21	150*150 *150	22500	8567	470	20.89	21.4
	1/2		M-20	27-Feb-21	27-Mar-21	150*150 *150	22500	8532	480	21.34	
	1/3		M-20	27-Feb-21	27-Mar-21	150*150 *150	22500	8592	495	22.00	
5	1/1	Ch: 00-243.20 Main Road RHS	M-20	06-Feb-21	06-Mar-21	150*150 *150	22500	8595	465	20.67	21.1
	1/2		M-20	06-Feb-21	06-Mar-21	150*150 *150	22500	8435	475	21.12	
	1/3		M-20	06-Feb-21	06-Mar-21	150*150 *150	22500	8531	485	21.56	
6	1/1	Escorts Engineering Layout Ch: 00-241.20 Main Road LHS	M-20	09-Feb-21	09-Mar-21	150*150 *150	22500	8476	490	21.78	21.8
	1/2		M-20	09-Feb-21	09-Mar-21	150*150 *150	22500	8473	495	22.00	
	1/3		M-20	09-Feb-21	09-Mar-21	150*150 *150	22500	8435	485	21.56	

Sl. No	Sample Identification mark on CC Cubes	Location	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of cube (grams)	Failure Load (kN)	Compressive strength (N/mm²)	Average Compressive strength of 3 Cubes (N/mm²)
17	1/1	4th Main road LHS @ Ch: 25.20m Culvert	M-20	12-Mar-21	09-Apr-21	150*150 *150	22500	8465	475	21.12	20.8
	1/2		M-20	12-Mar-21	09-Apr-21	150*150 *150	22500	8521	460	20.45	
	1/3		M-20	12-Mar-21	09-Apr-21	150*150 *150	22500	8595	470	20.89	
18	1/1	4th Main Road LHS Ch: 00-102.80	M-20	17-Mar-21	14-Apr-21	150*150 *150	22500	8465	485	21.56	21.1
	1/2		M-20	17-Mar-21	14-Apr-21	150*150 *150	22500	8426	475	21.12	
	1/3		M-20	17-Mar-21	14-Apr-21	150*150 *150	22500	8495	465	20.67	
19	1/1	4th Main Road 2nd Cross LHS Side RHS Ch: 00-48.90	M-20	20-Mar-21	17-Apr-21	150*150 *150	22500	8532	495	22.00	22.3
	1/2		M-20	20-Mar-21	17-Apr-21	150*150 *150	22500	8562	500	22.23	
	1/3		M-20	20-Mar-21	17-Apr-21	150*150 *150	22500	8512	510	22.67	

Remarks:

The tested samples meets the requirements of IS 456 : 2000 with respect to above tests conducted.

1. The test results pertain to the number of samples as furnished by the customer
2. Any correction in the report will make this report invalid.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By:
Sushma

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

ಉಪವಿಭಾಗ.
ಬ.ಬ.ಎ.ಪಿ. ಬೆಂಗಳೂರು-106

Project Management Consultancy

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1285
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 22/04/2021

TEST REPORT OF GRADATION FOR GSB

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name of Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Sample Collection: 21/04/2021
Chainage/Location/Land Mark: Industrial area ch:00-369m GO GO International ovt ltd road
Date of testing: 21/04/2021
Reference to BIS codes: IS 2386 (Part 1):1963 (RA 2016) Particle Size and Shape Cl.2
Layer: GSB

Oven Dry Wt (gm): 10000

Sl No	Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	As per MORTH 5th Revsion Table 400.1 (Garding V)
1	75	0	0	0.00	100.00	100
2	53	215	215	2.15	97.85	80-100
3	26.5	1856	2071	20.71	79.29	55-90
4	9.5	3865	5936	59.36	40.64	35-65
5	4.75	1120	7056	70.56	29.44	25-50
6	2.36	1020	8076	80.76	19.24	10-20
7	0.85	956	9032	90.32	9.68	2-10
8	0.425	856	9888	98.88	1.12	0-5
9	pan	112	10000	100.00	0.00	-

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By:
Pushpa D B

Tested By:
Ashwini

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1287

Lab ID : GCS-03-20338-1
Date : 8/5/2021

TEST REPORT OF DETERMINATION OF RATE OF SPREAD PRIMER COAT

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no-03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name of Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: Industrial area ch 00-371.50m Go Go International Pvt Ltd Road
Date of testing: 7/5/2021

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	mt	0.2*0.2	0.2*0.2	0.2*0.2
Area of Plate (a)	Sq.m	0.04	0.04	0.04
Initial Wt of empty Plate (b)	Kg	0.200	0.200	0.200
Final weight of plate after application of prime /Tack Coat (c)	Kg	0.225	0.226	0.227
Weight of Prime/Tack Coat (d=c-b)	Kg	0.025	0.026	0.027
Rate of spread of Prime/tack coat	kg/Sq.m	0.625	0.650	0.675
Average	**kg/Sq.m**	**0.650**		
Specified Limit	**kg/Sq.m**	**0.60 Kg/sq.m for Prime coat**		

Gooly Consultancy Services Bangalore

Contractor/Contractor Representative **Client(AE/AEE/EE)** **PMC**

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1295
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 17/5/2021

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM

Name of Client:	Bruhat Bangalore Mahanagara Palike
Address:	Yelahanka Division
Package No:	Package - 03
Name of Work:	Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name of Contractor:	M/s RAM & Co., Bangalore
Name of PMC:	M/s Gooly Consultancy services, Bangalore
Date of Sample Collection:	4/5/2021
Chainage/Location /Land Mark:	Industrial area ch 00-371.50m Go Go International Pvt Ltd Road
Date of testing:	5/5/2021
Type of Mix:	Dense Bituminous Macadam

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for DBM Grade II (50-75mm) Bitumen Content 4.5 min VG-30
2. Weight of Mixture after Test, gm	477	
3. Weight of Bitumen Extracted, gm	23	
4. Bitumen content in %	4.6	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 477 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500-10
37.5	0	0.00	0.00	100.00	100
26.5	23	4.82	4.82	95.18	90 - 100
19	50	10.48	15.30	84.70	71-95
13.2	80	16.77	32.08	67.92	56-80
4.75	85	17.82	49.90	50.10	38-54
2.36	74	15.51	65.41	34.59	28-42
0.3	86	18.03	83.44	16.56	7-21
0.075	42	8.81	92.24	7.76	2-8

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Gooly Consultancy Services Bangalore

Prepared By:
Pushpa D B

Tested By:
Ashwini

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1298
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 17/5/2021

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Sample Collection: 08/05/21
Chainage/Location /Land Mark: SFS 407 Ch: 00-279 1st A main road
Date of testing: 08/05/21
Type of Mix: Dense Bituminous Macadam

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for DBM Grade II (50-75mm) Bitumen Content 4.5 min VG-30
2. Weight of Mixture after Test, gm	475	
3. Weight of Bitumen Extracted, gm	25	
4. Bitumen content in %	5	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 475 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500-10
37.5	0	0.00	0.00	100.00	100
26.5	47	9.89	9.89	90.11	90 - 100
19	79	16.63	26.53	73.47	71-95
13.2	72	15.16	41.68	58.32	56-80
4.75	84	17.68	59.37	40.63	38-54
2.36	43	9.05	68.42	31.58	28-42
0.3	75	15.79	84.21	15.79	7-21
0.075	40	8.42	92.63	7.37	2-8

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Gooly Consultancy Services Bangalore

Prepared By:
Pushpa D B

Tested By:
Ashwini

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1300

Lab ID : GCS-03-20338-1
Date : 17/5/2021

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)

Name of Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Sample Collection: 11/05/21
Chainage/Location /Land Mark: SFS 407 Ch: 00-188.50 6th main road
Date of testing: 11/05/21
Type of Mix: Dense Bituminous Macadam

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for DBM Grade II (50-75mm) Bitumen Content 4.5 min VG-30
2. Weight of Mixture after Test, gm	477	
3. Weight of Bitumen Extracted, gm	23	
4. Bitumen content in %	4.6	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 477 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500-10
37.5	0	0.00	0.00	100.00	100
26.5	22	4.61	4.61	95.39	90 - 100
19	95	19.92	24.53	75.47	71-95
13.2	74	15.51	40.04	59.96	56-80
4.75	84	17.61	57.65	42.35	38-54
2.36	51	10.69	68.34	31.66	28-42
0.3	79	16.56	84.91	15.09	7-21
0.075	35	7.34	92.24	7.76	2-8

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By:
Pushpa D B

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1292
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORT OF DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no-03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 Ch: 00-38 MEC School Road
Date of testing: 22/05/2021

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	mt	0.2*0.2	0.2*0.2	0.2*0.2
Area of Plate (a)	Sq.m	0.04	0.04	0.04
Initial Wt of empty Plate (b)	Kg	0.200	0.200	0.200
Final weight of plate after application of prime /Tack Coat (c)	Kg	0.251	0.252	0.253
Weight of Prime/Tack Coat (d=c-b)	Kg	0.051	0.052	0.053
Rate of spread of Prime/tack coat	kg/Sq.m	0.255	0.260	0.265
Average	**kg/Sq.m**	**0.260**		
Specified Limit	**kg/Sq.m**	**2.5 kg per 10 sqm for Tack coat**		

Gooly Consultancy Services Bangalore

Contractor/Contractor Representative **Client(AE/AEE/EE)** **PMC**

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1301
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 ch 00-210 1stB Main road (kuvempu road)
Date of testing: 15/05/2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	471	
3. Weight of Binder Extracted, gm	29	
4. Binder content in %	5.8	

GRADATION AFTER EXTRACTION
TOTAL WEIGHT OF SAMPLE: 471 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	41	8.70	8.70	91.30	90 - 100
9.5	58	12.31	21.02	78.98	70-88
4.75	96	20.38	41.40	58.60	53-71
2.36	67	14.23	55.63	44.37	42-58
1.18	42	8.92	64.54	35.46	34-48
0.6	42	8.92	73.46	26.54	26-38
0.3	30	6.37	79.83	20.17	18-28
0.15	25	5.31	85.14	14.86	12-20
0.075	23	4.88	90.02	9.98	4-10

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By: Pushpa D B

Tested By: Ashwini

Gooly Consultancy Services Bangalore

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1309
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 ch 00-36.50 road from bldg 170-172 puzzle technologies
Date of testing: 21/05/2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	471	
3. Weight of Binder Extracted, gm	29	
4. Binder content in %	5.8	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 471 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	40	8.49	8.49	91.51	90 - 100
9.5	56	11.89	20.38	79.62	70-88
4.75	95	20.17	40.55	59.45	53-71
2.36	68	14.44	54.99	45.01	42-58
1.18	43	9.13	64.12	35.88	34-48
0.6	41	8.70	72.82	27.18	26-38
0.3	32	6.79	79.62	20.38	18-28
0.15	24	5.10	84.71	15.29	12-20
0.075	25	5.31	90.02	9.98	4-10

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By:
Pushpa D B

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

Corporate Off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1308

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 ch 00-36.50 road from bldg 170-172 puzzle technologies
Date of testing: 21/05/2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	474	
3. Weight of Binder Extracted, gm	26	
4. Binder content in %	5.2	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 474 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	41	8.65	8.65	91.35	90 - 100
9.5	58	12.24	20.89	79.11	70-88
4.75	96	20.25	41.14	58.86	53-71
2.36	67	14.14	55.27	44.73	42-58
1.18	42	8.86	64.14	35.86	34-48
0.6	42	8.86	73.00	27.00	26-38
0.3	30	6.33	79.32	20.68	18-28
0.15	25	5.27	84.60	15.40	12-20
0.075	23	4.85	89.45	10.55	4-10

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.
1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Gooly Consultancy Services Bangalore

Prepared By: Pushpa D B

Tested By: Ashwini

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.c

1310

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 Ch: 00-38 MEC school road
Date of testing: 22/05/2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	472	
3. Weight of Binder Extracted, gm	28	
4. Binder content in %	5.6	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 472 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	44	9.32	9.32	90.68	90 - 100
9.5	51	10.81	20.13	79.87	70-88
4.75	77	16.31	36.44	63.56	53-71
2.36	65	13.77	50.21	49.79	42-58
1.18	44	9.32	59.53	40.47	34-48
0.6	52	11.02	70.55	29.45	26-38
0.3	36	7.63	78.18	21.82	18-28
0.15	42	8.90	87.08	12.92	12-20
0.075	20	4.24	91.31	8.69	4-10

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By:
Pushpa D B

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

1312

Lab ID : GCS-03-20338-1
Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 03
Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)
Name Contractor: M/s RAM & Co., Bangalore
Name of PMC: M/s Gooly Consultancy services, Bangalore
Chainage/Location /Land Mark: SFS 407 Ch: 00-188.50 6th main road
Date of testing: 24/05/2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	471	
3. Weight of Binder Extracted, gm	29	
4. Binder content in %	5.8	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 471 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	32	6.79	6.79	93.21	90 - 100
9.5	87	18.47	25.27	74.73	70-88
4.75	95	20.17	45.44	54.56	53-71
2.36	59	12.53	57.96	42.04	42-58
1.18	34	7.22	65.18	34.82	34-48
0.6	30	6.37	71.55	28.45	26-38
0.3	31	6.58	78.13	21.87	18-28
0.15	35	7.43	85.56	14.44	12-20
0.075	30	6.37	91.93	8.07	4-10

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By:
Pushpa D B

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

GOOLY CONSULTANCY SERVICES

ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017 1314

Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.

Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-03-20338-1

Date : 01/06/21

TEST REPORTS OF BITUMEN CONTENT & GRADATION DETERMINATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike

Address: Yelahanka Division

Package No: Package - 03

Name of Work: Improvements to roads, drains and other developmental works in ward no- 03 under road development head in Chief Minister Nava Nagarothan grants of Yelahanka division. (Package -03)

Name Contractor: M/s RAM & Co., Bangalore

Name of PMC: M/s Gooly Consultancy services, Bangalore

Chainage/Location /Land Mark: SFS 407 Ch: 00-181.50 2nd B main road - SL Byrappa road

Date of testing: 25/05/2021

Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	470	
3. Weight of Binder Extracted, gm	30	
4. Binder content in %	6.0	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 470 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	44	9.36	9.36	90.64	90 - 100
9.5	51	10.85	20.21	79.79	70-88
4.75	77	16.38	36.60	63.40	53-71
2.36	65	13.83	50.43	49.57	42-58
1.18	44	9.36	59.79	40.21	34-48
0.6	52	11.06	70.85	29.15	26-38
0.3	36	7.66	78.51	21.49	18-28
0.15	42	8.94	87.45	12.55	12-20
0.075	20	4.26	91.70	8.30	4-10

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By:

Tested By:

Gooly Consultancy Services Bangalore